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ABSTRACT

This investigation sought to learn what communication behavior, if any, differentiated high- from low-Machiavellians. Two independent variables were examined, Machiavellianism (high and low) and experimental condition (naive and confederate). Dependent variables included the 12 categories of Bales' Interaction Process Analysis. The results suggest that high-Machs in this study appeared to concentrate on the cognitive aspects of the experimental task. High-Machs adopted a negative socio-emotional feedback strategy which combined with the confederate experimental condition to pressure highs' partners into task compliance. (Author)

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# An Experimental Investigation of Selected Communication Effects of Machiavellianism

by

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This investigation sought to learn what communication behavior, if any, differentiated high- from low-Machiavellians. Two independent variables were examined, i.e., Machiavellianism (high and low) and experimental condition (naive and confederate). Dependent variables included the twelve categories of Bales' Interaction Process Analysis.

The results suggest that high-Machs in this study appeared to concentrate on the cognitive aspects of the experimental task. High-Machs adopted a negative socio-emotional feedback strategy which combined with the confederate experimental condition to pressure highs' partners into task compliance.

In recent years an increasing number of behavioral scientists and communication researchers have explored the phenomenon of the Machiavellian personality orientation.

Some (Osborne, Long, and Hensley, 1973; Williams, Hazeton, and Renshaw, 1975) have focused on the instruments developed by Christie and his associates (Christie and Geis, 1970, pp. 10-25) which purport to identify and measure individuals' manipulative orientations. They have attempted to determine the instruments' factoral dimensions.

Others (Burgoon, 1971; Singer, 1964) have examined the relationship between Machiavellianism and a variety of other variables including sex, birth order and grades achieved in course work.

Still others (Burgoon, 1972; Marks and Lindsay, 1966; Rim; 1966; Bogart et. al, 1970) have examined attitudinal dimensions of high and low-Machiavellians to determine their susceptability to cognitive dissonance and peer pressure.

While an increasing number of studies have been conducted and reported, relatively few have specifically focused on the communication behavior of Machiavellians. Hacker and Gaitz (1970) conducted a field study of a ten member mental health team that has provided some insight into high-Mach communication behavior. Employing Bales' I.P.A., they reported that the amount of participation, i.e., number of interactions, showed a significant positive correlation with Mach scores. Machiavellianism was also related to certain styles of small group interaction, e.g., giving suggestions or directions, asking others for information and using negative socio-emotional interaction to maintain task progress. It appears that high-Machs may manipulate groups by assuming control of the task leadership and maintain that control through the use of negative socio-emotional constraints. Geis (1964) reported similar results in a group experiment. She found high-Machs were rated significantly higher than low-Machs on five task performance criteria

but were not rated highly on a sociometric question, e.g., ". . . how much do you think you would like him personally, as a friend?"

Bochner and Tucker (1971) conducted a multivariate investigation of Machiavellianism and task structure in groups. They attempted to measure the effects of group compositions and task structure--i.e., structured versus unstructured, upon observable communication strategies and self-report responses of high- and low-Machiavellians. They reported that group composition, based on Machiavellian scores, had a "decided effect" on group interaction. They indicated that Machiavellianism could be considered a group trait as well as an individual trait. As the authors indicate, ". . . this means that groups quickly developed an atmosphere congruent with their dominant Machiavellian trait and this regulated interactions" (p. 9). By inspecting individual score results, they found that low-Machs dealt more with tasks through socio-emotional modes of behavior while highs changed their behavior depending on the type of group to which they were assigned. High-Machs utilized task behaviors of information passing and disagreement *less* in low-Mach dominated groups than in those dominated by high-Machs. The results further indicated that the type of task (structured versus unstructured) may have a significant effect on the abilities of high-Machs to manipulate and control group structure since the problem-solving procedure for an unstructured task involves undefined goals, unclear procedures and many possible and plausible solutions. Conversely, structured tasks require less task activity; goals are clear, only a few solutions are possible and the rules and procedures are generally known and presumably accepted. Agreement and disagreement interactional modes will probably be more prominent. Thus, in a structured situation, the high-Mach may be expected to be less effective at controlling group structure.

In a later study, Bochner, DiSalvo, and Jones (1972) explored the preferred communication style of high- and low-Machs. They sought to discover the

message strategies employed by high-Machs to control group activities and structure. Ss were assigned to one of two experimental groups, each homogeneous by sex and composed of one high-, one low-, and two middle-Machs. Assignment to the various Mach level designations was made by dividing the scoring distribution on the Mach IV and V into quartiles. The experimental tasks were unstructured to allow maximum latitudes for Ss to improvise solutions. The authors summarized:

> At this point we are unable to determine how the frequency of speaking words comprising significant factors relates to influence on decision making in groups. If high Machs are significant influences and do control the structure of the group, as accumulated results of previous research indicates, then our data suggests the hypothesis that they accomplish control by saturating the group with relevant information during critical phases of discussion. [P. 12]

While reviewing the studies, it was noted that none had been conducted using a dyadic situation. Other literature had used the dyadic mode (Harris, 1966, Metz, 1967, Thornton, 1967) but had not focused on communication behavior. It appears that the very nature of the task, the group structure and dynamics may have had a mediating effect on high- and low-Mach communication behavior. To avoid that potential, it was decided to focus on dyadic communication. It was further speculated that the face-to-face, one-to-one paradigm would permit a more clearly delineated and intensive examination of high- and low-Mach communication behavior.

At this point, our knowledge of the specific communication behavior that differentiates high- from low-Machiavellians is limited. Bochner et al. (1972) have reported that highs contributed more task-relevant information and talked more than did lows. Hacker and Gartz (1970) concluded that in groups, high-Machs

sought more information, made more suggestions and made greater use of negative socio-emotional interaction than did lows. Maniputative high-Mach behaviors appear to be dependent on three situational variables: (1) interaction must be face-to-face; (2) the situation must contain few, if any, specified rules or parameters for role behavior; and (3) the situation must contain affective elements, i.e., issues or details which distract the low-Machs (Christie, 1970, p. 286-288).

The purpose of this investigation was to extend the work of Hacker and Gaitz (1970), Bochner and Tucker (1971), and Bochner et al. (1972) by focusing on dyadic interaction. The research was addressed to one central question: What specific categorical differentiations, if any, exist between high- and low-Machiavellian communication behavior?

## Methodology

Christie's Mach IV and Mach V scales (Christie, 1970, pp. 19-25) were administered to all students enrolled in courses from the 200 to 400 levels inclusive in the Rhetoric and Communication Division at Kent State University. A total of 435 students were tested (210 males and 225 females). This convenience-sampling technique was employed because of the relatively large number of Ss available. Only male Ss were utilized in the study. This was done to avoid the potential for sex bias (Singer, 1964). Further, Exline et al. (1961) have reported that female respondents score significantly lower on both the Mach IV and Mach V instruments than do males.

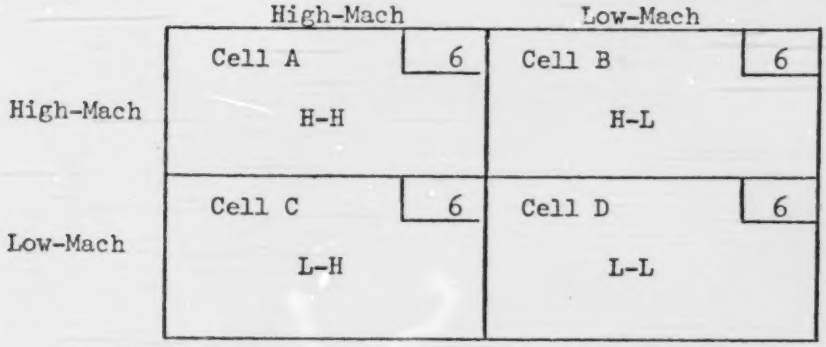
## Research Design

In order to test the hypotheses relating to the communication behaviors of high- and low-Machiavellians in a dyadic situation, a two-factor fixed-effects factorial design (2 X 2 ANOVA) was chosen (Glass and Stanley, 1970). This design

permitted the examination of the main and interaction effects of the two independent variables, Machiavellianism and experimental condition (naive or confederate) in various combinations. Figure 1 below indicates the levels and pairings of the Machiavellian variables.

Figure 1

Mach Levels and Experimental Pairings




Cell A - 6 high-Machs paired with 6 high-Machs; a total of 12 Ss in 6 dyads.
Cell B - 6 high-Machs paired with 6 low-Machs; a total of 12 Ss in 6 dyads.
Cell C - 6 low-Machs paired with 6 high-Machs; a total of 12 Ss in 6 dyads.
Cell D - 6 low-Machs paired with 6 low-Machs; a total of 12 Ss in six dyads.

As noted in Figure 1, each cell contained six dyads (12 individuals). A total of 48 (24 high-Mach and 24 low-Mach) Ss were involved in the experiment.

## Procedure

The "Betty Case" (Harnak, 1963) was chosen for the study. The case was chosen because it involves a situation in which a number of moral and ethical issues emerge. There is no correct answer or decision regarding what action should be taken against Betty. The investigator believed that the case provided the potential elements necessary for high-Machs to induce the "irrelevant affect" (Christie, 1970, p. 288). Further, it was believed that the "Betty Case" provided the elements necessary to allow high-Machs "latitude for improvisation"

(Christie, 1970, p. 287). The possible solutions available range across seven choices, i.e., from exoneration to suspension and disgrace for Betty. The content and timing of communication were not predefined, therefore, the situation was open-ended. Finally, the Ss in the dyads were to be face-to-face thus providing the high-Machs the opportunity to size up the subtle social cues inherent in the situation (Christie, 1970, p. 286).

## Motivational Reward

In order to avoid the potential condition wherein both Ss in a dyad might genuinely be in agreement or only minimally separated in their initial positions vis-à-vis the disposition of the "Betty Case," the second independent variable was included, i.e., the initial position of one member of each dyad was randomly manipulated. This manipulation eliminated the problem of initial agreement among Ss. The procedure required the S with the assigned position (designated $S_c$, subject-confederate) to assume an advocacy role and encouraged the manifestation of manipulative behavior in high-Machiavellian Ss. On the other hand, the S who actually chose an initial position (designated $S_n$, subject-naive) was advocating a position that he actually endorsed. If the S was a high-Mach, it seemed likely that his tendency to manipulate would be heightened by the reward condition. In addition, the experimental condition still permitted all Ss the opportunity to win a monetary reward for their participation.

To implement the proposed experimental condition, numbers representing 24 high- and 24 low-Machs were randomly selected from the pool of 48 high- and 48 low-Machs; six highs and six low were randomly assigned to cells A, B, C, and D. The Ss in each cell were then randomly assigned to an experimental--i.e., the $S_c$ condition (confederate, the S assigned a position vis-à-vis the solution of the "Betty Case"), or the $S_n$ condition (naive, the S who freely chose a position vis-à-vis the solution of the "Betty Case"). This procedure was followed until all

Ss within a[illegible]s had been assigned to a motivational reward condition.

Both [illegible]received equal motivation; however, the $S_c$ did *not* choose an initial p[illegible]lative to the disposition of the "Betty Case," while the $S_n$ made an i[illegible]ce.

Figu[illegible] indicates the complete 2 X 2 factorial design employed in the study.

Figure 2

Experimental Design

| High-Mach | Low-Mach |
|---|---|
| Cell A | Cell B |
| H $S_c$ - H $S_n$<br>H $S_c$ - H $S_n$<br>H $S_c$ - H $S_n$<br>H $S_c$ - H $S_n$<br>H $S_c$ - H $S_n$<br>H $S_c$ - H $S_n$ | H $S_c$ - L $S_n$<br>H $S_c$ - L $S_n$<br>H $S_c$ - L $S_n$<br>H $S_n$ - L $S_c$<br>H $S_n$ - L $S_c$<br>H $S_n$ - L $S_c$ |
| Cell C | Cell D |
| L $S_c$ - H $S_n$<br>L $S_c$ - H $S_n$<br>L $S_c$ - H $S_n$<br>L $S_n$ - H $S_c$<br>L $S_n$ - H $S_c$<br>L $S_n$ - H $S_c$ | L $S_c$ - L $S_n$<br>L $S_c$ - L $S_n$<br>L $S_c$ - L $S_n$<br>L $S_c$ - L $S_n$<br>L $S_c$ - L $S_n$<br>L $S_c$ - L $S_n$ |

H $S_c$ - high-Mach, confederate
H $S_n$ - high-Mach, naive
L $S_c$ - low-Mach, confederate
L $S_n$ - low-Mach, naive

## Subjects

Twenty-four high-Mach male subjects were drawn at random from a pool of 48 Ss representing the first quartile of the scoring distribution. Those drawn were randomly assigned to an experimental cell. Twenty-four low-Mach male subjects were also drawn at random from a pool of 48, representing the fourth quartile of the scoring distribution, and randomly assigned to an experimental cell.

## Experimental Procedures

The procedures followed for the experiment were:

1. In all cells each member of the dyad was placed alone in a separate room.
2. The $S_n$ was asked to read and review the "Betty Case" and indicate which of the seven possible recommendations he endorsed.
3. The $S_c$ was asked only to read the "Betty Case."
4. The $S_n$ was asked for his decision and was then told the S marked a decision that was opposite from his. He was then told, "We are conducting an experiment to see what techniques people employ to persuade others, and you will be paid a dollar for every point you can move the other person on the 1-7 scale of answers."
5. The $S_c$ was then told what solution the $S_n$ had marked; he, too, was told, "We are conducting a persuasion experiment and you will be paid a dollar for every point you can move the other person on the 1-7 scale of answers."
6. In the event that an $S_n$ chose option 4, the theoretical neutral point on the scale, the $S_c$ was told he would be paid $7.00 if he could move the $S_n$ all the way to position 1 or 7 on the scale, and further that he would be paid a dollar per point for anything less.
7. The $S_c$ was then told, "We will pay you nothing if you divulge the fact that you did not actually make a choice but were assigned one."
8. The dyad members were then taken to the experimental room and told, "You have

20 minutes to reach a decision."

9. When the experiment was concluded, the $S_c$ and $S_n$ indicated their final position on separate 1-7 scales.
10. They were then asked to complete a "perception and truthfulness" scale.
11. The Ss were then paid and debriefed. They were told that the study had dealt with persuasion and motivation.

## Instrument

To examine verbal communication patterns of Ss, the Bales Interaction Process Analysis (1950) concept was employed (see Appendix A). The IPA observational scheme is closely articulated to a conceptual analysis which lends a quality of theoretical simplicity and research usefulness to it.

The key concept in the use of the Bales observational scheme is the unit or "act." Bales has defined act as verbal and non-verbal behavior of a person which is communicated to at least one other person and which has an observational beginning and end. Ordinarily, one complete sentence or an independent phrase is considered an act. Typically each phrase, sentence, or discernible reaction is coded as an act.

The Bales concept was chosen for its reliability, wide use in research, and its delineation of categories of communication behaviors (Bales, 1950).

## Data Collection

To facilitate the collection of data, the investigator utilized the communication research laboratory in the Rhetoric and Communication Division at Kent State University. The facility contains two fixed-mount television cameras with zoom capability and one remote-control scan camera. This arrangemen' permitted maximum video taping coverage. In addition, the sound system permitted high audio-track reproduction and audio tape recording of the experiment. Two Panasonic

AV-3020 half-inch helical scan video tape recorders were used. This was done to insure that no data would be lost in the event of a technical failure of one machine. Since the two large fixed-mount cameras were located behind one-way glass ports, the Ss were unable to see the equipment.

Video tape was utilized for two primary purposes: (a) it provided a complete record of the experimental interaction and (b) the tape allowed the greatest flexibility for gathering data. The trained coders had the opportunity to play the tape through many times; this permitted a high degree of intercoder reliability in coding verbal acts on the IPA scale.

A total of eight one-hour reels were used in the experiment; two tapes were used for each cell. In addition, all dyads were recorded on audio tape. This back-up system was used to guard against audio technical failure.

## Coding of Data

Since the experimental hypotheses tested relied upon data collected by the IPA, the experimenter took great care in training the coders. Three speech communication doctoral students were employed as coders. Several steps were employed: (a) the coders read and discussed Bales' explanation of each category; (b) the coders listened to numerous audio tapes of sample discussions and practiced coding acts both separately and jointly; (c) the coders listened to randomly selected audio tapes of the experiment; and (d) after each training session, the experimenter computed the intercoder reliability. This procedure was continued until the intercoder reliability .70 was demonstrated and sustained for four sessions. Finally, the coders acquired a thorough knowledge of the "Betty Case" and its solutions. All data were transferred to computer coding sheets and punched at the Kent State University Computer Center.

## Analysis of Data

The primary analysis was performed using the two-factor Analysis of Variance (ANOVA). As noted earlier, this procedure permitted the examination of the main and interaction effects of the two independent variables, i.e., level of Machiavellianism (high-low) and the experimental condition (naive-confederate), as they affected the dependent variables measured in the experiment. The experimenter believed Analysis of Variance appropriate in the light of research reported by Bochner and Tucker (1971), and because the investigator concurs with Games and Klare (1967) who state, "the complaint that numbers do not form a ratio or interval scale is irrelevant . . . we take issue with the notion that the usefulness of statistical indices such as the means and standard deviation is limited to situations in which the investigator can prove the interval characteristics of the numbers obtained by his measuring operations" (pp. 477-478).

## Results

The twelve hypotheses were formulated and tested using two-way Analysis of Variance (Glass and Stanley, 1970). The Newman-Keuls procedure (Winer, 1971) for multiple comparison of the ANOVA F-ratios was used to determine the significance of the results with the $p < .05$ level of probability for one-tailed test established as necessary for rejection of the null hypothesis.

The results of the study are reported by stating the research hypotheses and providing the results of the statistical analysis.

Hypothesis one stated:

1. High-Machs will demonstrate *less* cooperative behavior, e.g., raises other's status, gives help, rewards, than will low-Machs regardless of experimental condition.

The results indicated a main effect for Mach level. An examination of the Newman-Keuls significance test revealed a mean score for high-Machs on the cooperativeness variable of 0.833 while the mean score for lows was 7.625, $p < .01$. These results supported the hypothesis and indicated the minimal effect of the assigned experimental condition on that variable of communication behavior.

Hypothesis two stated:

2. High-Machs will demonstrate *less* tension relieving behavior, e.g., joking, laughing, showing satisfaction, than will low-Machs regardless of experimental condition.

The analysis indicated the predicted main effect of Machiavellianism. The Newman-Keuls significance test yielded a mean score for high-Machs of .833 while lows' mean score was 5.625, $p < .01$. Here there was clear support for the hypothesis; however, there was also an interaction effect between high- and low-Machs in the confederate condition. The Newman-Keuls yielded means of .333 for highs and 7.583 for lows, $p < .01$. High-Machs relieved significantly less tension in the confederate condition than the naive condition. There was no significant interaction found in the naive condition, thus the hypothesis was rejected. These results may indicate that high-Mach confederates, knowing the full extent of the experimental manipulation intended, may have used the tension-relief variable as a communication tactic.

Hypothesis three stated:

3. High-Machs will demonstrate *less* agreement behavior, e.g., understanding, concurrence, compliance, than will low-Machs regardless of experimental condition.

The data yielded by the ANOVA indicated a main effect for the Mach variable. The Newman-Keuls significance test demonstrated that high-Machs engaged in significantly less agreement behavior. The mean score for low-Machs was 12.542

while the highs' mean score was 7.250, $p < .05$. But like the preceding hypothesis, an interaction effect was found between Mach level and experimental condition. High-Machs in the confederate condition yielded a mean score of 4.500 while lows achieved 15.583, $p < .01$ on the Newman-Keuls test. The differences between highs and lows in the naive condition were not significant (highs - 10.900 vs. lows - 9.500). While the main effect was as hypothesized, the magnitude of the interaction clearly indicated the importance of experimental condition on this variable. Here again, the hypothesis was rejected.

Hypothesis four stated:

4. High-Machs will demonstrate *more* suggestion giving behavior, e.g., directing, implying autonomy for others, than will low-Machs regardless of experimental condition.

The results of the ANOVA for this hypothesis revealed main effects for both experimental condition and Machiavellianism and an interaction effect between the two vis-à-vis suggestion giving behavior. The Newman-Keuls test for the experimental condition yielded a mean score of 5.583 for confederates and 2.875 for naive Ss, $p < .05$. The Newman-Keuls for the Mach level variable demonstrated the main effect of high-Machiavellianism. The highs' mean score was 1.750 while the lows' mean score was 6.708, $p < .01$. Highs engaged in significantly less suggestion giving behavior than did lows. The interaction effect again demonstrated the effect of the condition on high-Mach behavior. The Newman-Keuls showed the mean score of high confederates was 1.667 while lows' mean score was 9.500, $p < .05$. It should be noted that the powerful interaction effect was a result of lows' increased suggestion giving behavior in the confederate condition, as the mean score for high-Machs in the naive condition was 1.833 while their confederate mean score was 1.667, $p < .05$. Clearly this hypothesis was not supported. In fact, the results indicated the exact opposite of the prediction.

Hypothesis five stated:

5. High-Machs will demonstrate *more* opinion giving behavior, e.g., evaluation, analysis, expressing feeling and wishes, than will low-Machs regardless of experimental condition.

The results of the ANOVA indicated no significant main effects, but high-Machs did engage in less opinion giving. The Newman-Keuls mean for highs was 116.625 while lows averaged 130.583, $p > .05$. The interaction effect was significant. High-Machs in the confederate condition recorded a mean score of 112.750 on the Newman-Keuls while lows averaged 158.833, $p < .05$. It appeared that the confederate experimental condition reduced highs' contributions. Clearly, high-Machs did not give more opinions and, therefore, the hypothesis was rejected.

Hypothesis six stated:

6. High-Machs will demonstrate *more* information giving behavior, e.g., orients, repeats, clarifies, confirms, than will low-Machs regardless of experimental condition.

The F-ratios yielded by the ANOVA, subjected to the Newman-Keuls, failed to indicate either main or interaction effects of the independent variables. It appeared that experimental condition and Mach level played no part in the amount of information given. The hypothesis was clearly unsupported. These results were particularly surprising in light of the results reported by Bochner and Tucker (1971) and Bochner et al. (1972). Both studies reported that high-Machs contributed more task-relevant information than did lows. While the results for the Mach variable did show Newman-Keuls mean scores for highs of 17.500 and 15.208 for lows, the differences were not significant.

Hypothesis seven stated:

7. High-Machs will demonstrate *less* information seeking behavior, e.g., requesting data, repetition,

clarification, than will low-Machs regardless of experimental condition.

The results of the ANOVA for hypothesis seven indicated a strong main effect for Machiavellianism and an interaction effect for the experimental condition and information sought. The Newman-Keuls computed for the main effect of Machiavellianism revealed that highs sought significantly less information than lows. The mean for highs was 3.792, for lows 10.583, $p < .01$. Again, the interaction was most apparent in the confederate condition. The mean for high-Mach confederates was 1.500 while the low confederates' mean was 12.333, $p < .05$. Clearly, high-Mach confederates sought less information than lows. While the hypothesis was rejected, it became increasingly clear that the combination of high-Machiavellianism *and* the confederate condition was producing many of the predicted results.

Hypothesis eight stated:

8. High-Machs will demonstrate *less* opinion seeking behavior, e.g., evaluation, analysis, expression of feelings, than will low-Machs regardless of experimental condition.

The results of the analysis indicated that there were no significant main or interaction effects. While the hypothesis was rejected, the Newman-Keuls significance test did yield a mean score for the Mach level just short of the $p < .05$ level (.0537). The mean score for highs was 10.375 while the lows' mean score was 14.625. The scores did indicate that high-Machs sought fewer opinions but not sufficiently to sustain the hypothesis.

Hypothesis nine stated:

9. High-Machs will demonstrate *less* suggestion seeking behavior, e.g., direction, possible ways of action,

than will low-Machs regardless of experimental condition.

The ANOVA indicated a significant main effect for Machiavellianism and a significant interaction effect between Mach level and the confederate condition. As in several previous hypotheses, the Newman-Keuls indicated substantially different main effect mean scores for high- and low-Machs (highs - 0.583, lows - 7.458, $p < .01$). Again, the confederate condition created a significant interaction effect. The Newman-Keuls mean score for confederate high-Machs was 0.083 while lows yielded a score of 9.667, $p < .01$. There was also a significant interaction effect between high-Machs in the naive condition and lows in the confederate condition (highs - 1.083, lows - 9.667, $p < .01$). Those results indicated that highs sought fewer suggestions regardless of condition, thus the hypothesis was supported.

Hypothesis ten stated:

10. High-Machs will demonstrate *more* argumentative behavior, e.g., passively rejects, withholds help, resorts to formality, than will low-Machs regardless of experimental condition.

The ANOVA indicated no significant main or interaction effects; however, the Newman-Keuls significance test computed for the Mach level variable did come very close to the significant probability level. The highs' mean score was 10.292 while the low-Machs' mean score was 6.875. The level of the means clearly indicated high-Machs were more argumentative than lows, but the hypothesis was rejected.

Hypothesis eleven stated:

11. High-Machs will demonstrate *more* tension displaying behavior, e.g., withdraws from interaction, fails to laugh, shows dissatisfaction,

than will low-Machs regardless of experimental condition.

Here, the results of the ANOVA did not sustain the hypothesis, but the Newman-Keuls again indicated directional support; highs did display more tension than lows. The Newman-Keuls mean score for high-Machs was 8.250, for lows the mean was 5.250, $p > .05$. While there was no significant interaction effect, the Newman-Keuls mean scores for naive and confederate high-Machs were higher than low-Machs in either condition (naive highs - 6.250, confederate highs - 10.250, naive lows - 4.250, confederate lows - 6.250).

Hypothesis twelve stated:

12. High-Machs will demonstrate *more* antagonistic behavior, e.g., deflates other's status, defends or asserts self, than will low-Machs regardless of experimental condition.

The ANOVA for hypothesis twelve demonstrated the predicted main effect for Mach level. The Newman-Keuls test yielded a mean score for highs of 10.958 while the lows' mean was 3.583, $p < .01$. The results supported the hypothesis. Further, while there was no significant interaction between experimental condition and Mach level, the Newman-Keuls mean scores also tended to support the hypothesis (high-naive mean - 10.000, high-confederate mean - 11.917, low-naive mean - 2.000, low-confederate mean - 5.167, $p > .05$). Highs were more antagonistic regardless of condition.

## Discussion

The results of a post test attitude scale administered to all Ss confirmed many of the earlier reported findings of others. High-Machiavellians won three times as much money as lows, and they won most when placed in the

confederate condition. High-Machs saw their partners as more manipulable than lows; they expressed little desire to know their partners after the experiment. Highs indicated their belief in their ability to win more money had the experiment been prolonged; lows showed no such belief. High-Machs indicated a negative overall reaction to their partners after the encounter while lows did not reveal any substantial dislike for their partners. Highs viewed the experimental interaction as significantly more competitive (versus cooperative) than did lows. High-Machs admitted to lying during the experiment to enhance their winning potential while lows did not. While it is impossible to know whether lows lied, the data indicated that highs did lie and felt little compunction about admitting it. All these results lend support to Christie's Machiavellian role model.

Highs appeared to show a relative lack of affect in interpersonal relations. In general, it seemed that they viewed others as objects to be manipulated rather than as individuals with whom to empathize.

If one considers lying morally reprehensible, then highs clearly were unconcerned with conventional morality. It may be that highs are simply less concerned with social sanctions, but even so, lying to gain advantage would imply a utilitarian rather than a moral view of interactions with others.

Finally, high-Machs seemed to demonstrate less ideological commitment than lows. On several occasions during the procedural explanation given to low-Machs in the confederate condition, the experimenter was told that the S doubted if he could be persuasive while defending the assigned position. In no case did any high-Mach express anxiety about defending an unendorsed position. It was the experimenter's subjective impression that the high-Mach confederates were much more interested in the rules, procedures, and monetary outcomes than in

defending a position they did not endorse.

The major focus of the study was directed at the communication behaviors categorized by the IPA. The experimental hypotheses were formulated to test predictions about high- and low-Mach communication behavior. The results seemed to generally confirm Christie's "cool syndrome-soft touch" hypothesis (1970, p. 294). The data indicated that high-Machs appeared less cooperative, tension relieving, and agreeable. They failed to reciprocate to their partner's positive overtures. Highs engaged in significantly less suggestion giving behavior. They gave less information and slightly more opinions. As predicted, high-Machs sought less information, fewer opinions and suggestions than did low-Machs. Finally, highs were more argumentative, though not significantly, than lows; they displayed more tension than lows, again not significantly, but they were significantly more antagonistic to their partners than were low-Machs.

The results indicated a strong interaction effect between high-Machiavellianism and the confederate experimental condition. A significant interaction was found in six of the twelve hypotheses formulated around the IPA and the interaction was strongly evident in four others. While high-Machiavellianism did exert a clear main effect on many of the dependent variables in the IPA, the confederate condition may have allowed highs to capitalize on the "irrelevant affect" (Christie, 1970, p. 288) since the confederate condition allowed the Ss to know their partners were advocating a position they actually believed. While the confederate was not, the high-Machs may have taken advantage of their opponents' commitment to their endorsed position and the attendant emotional issues and adopted a cognitive non-reciprocal strategy for winning.

Previous research (Christie and Geis, 1970) has suggested that high-Machs win more than lows because lows get distracted from the task by the interpersonal

maintenance involved in communication reciprocity. It appears that high-Machs may have maintained an instrumental cognitive attitude toward their partners and a convergent orientation to the assigned task. They may have been cognitively sensitive to the definitional characteristics of their partners, of the situation, its rules and procedures, and remained unmoved by the "irrelevant" emotional, ethical, and moral issues involved in the "Betty Case."

These results suggest that high-Machs in this study may have concentrated on cognitive aspects of the experimental task. They indicated no desire to know their partners personally; they admitted lying and were more concerned with the rules, procedures, and potential monetary reward than were lows. The highs appeared to have adopted a strategy of giving few positive reactions, contributing less task-relevant information than their partners, seeking fewer suggestions, information and opinions, and displaying negative reactions to their partners and their ideas. This decidedly negative socio-emotional feedback strategy combined with the withholding of task-relevant information suggests that highs, in this study, may have "laid back" and used the lack of reciprocity to pressure their partners into compliance. These results would seem to support Christie's. He stated:

> . . . It was our subjective impression that highs were task involved in winning while the lows had become ego involved with details (loyalty of partners, breaches of reciprocity, fairness and justice in dividing the prize) which arose in the bargaining process. [1970, p. 295]

It may be that high-Machs were indeed more hostile, as indicated by their negative socio-emotional feedback, but it seems that they more probably used

hostility instrumentally to achieve the desired goal of winning money. Generally, this investigator agrees with Christie:

> . . . In general, they are adept at getting what they want from others without overt hostility. They take what they get coolly and do not reciprocate the generosity, but usually they have not promised reciprocity. [1970, p. 307]

Appendix A

IPA Coding Form

| Cell No.__, Tape No.__ | Subject One | Subject Two |
|---|---|---|
| 1. Shows cooperativeness | | |
| 2. Shows tension relief | | |
| 3. Shows agreement | | |
| 4. Gives suggestions | | |
| 5. Gives opinion | | |
| 6. Gives information | | |
| 7. Asks for information | | |
| 8. Asks for opinion | | |
| 9. Asks for suggestions | | |
| 10. Shows argumentiveness | | |
| 11. Shows tension | | |
| 12. Shows antagonism | | |

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